LEADWELL

LEADWELL CNC MACHINES MFG.,CORP.

T-8 Series

CNC TURNING CENTERS

The Ultimate in Performance

LEADWELL CNC MACHINES MFG.,CORP

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※ All performance are based on 220V/3PH/60HZ. Specification are subject to change without notice.

T-8 Series

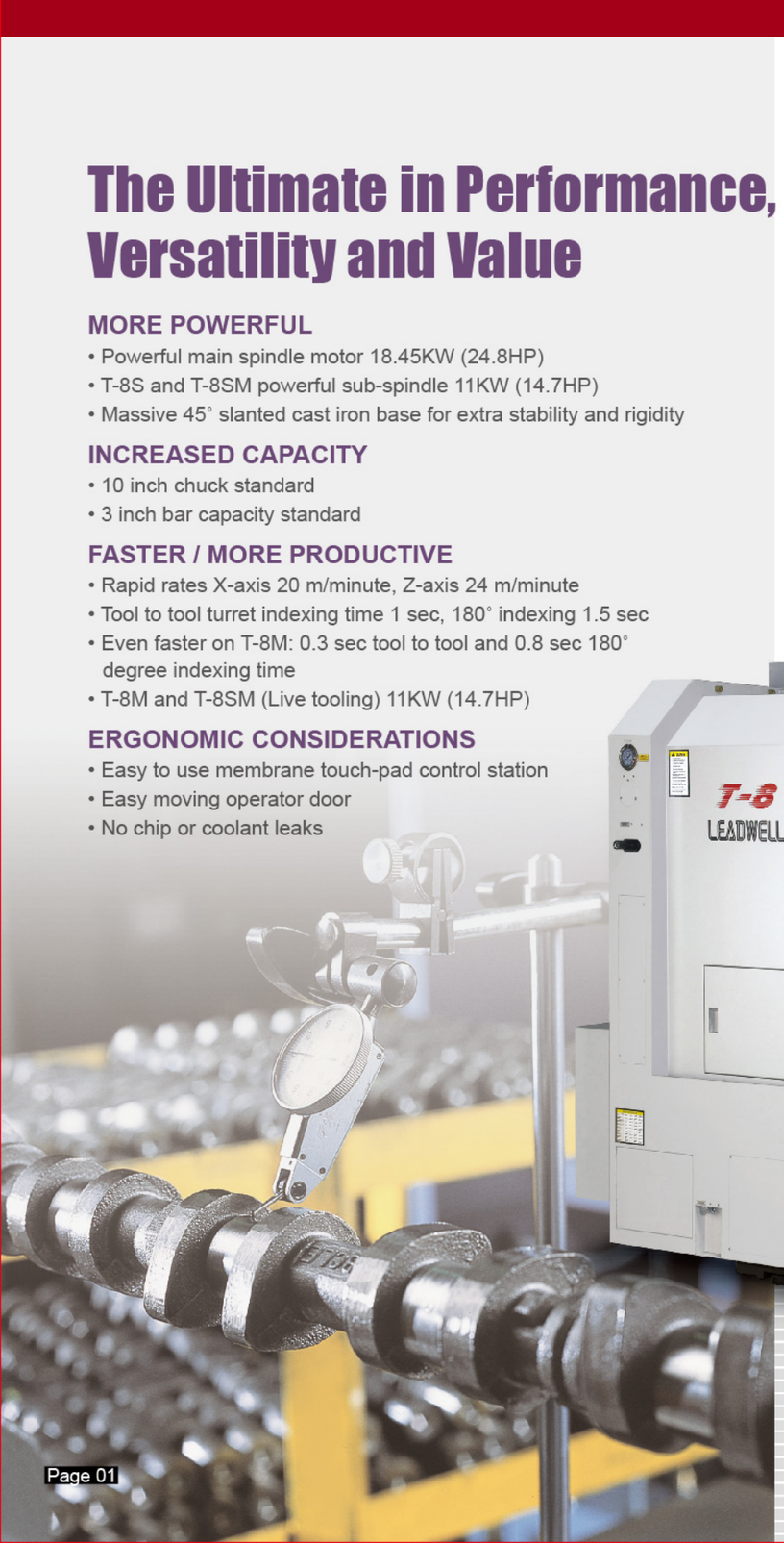
The Ultimate in Performance, Versatility and Value

MORE POWERFUL
- Powerful main spindle motor 18.45KW (24.8HP)
- T-8S and T-8SM powerful sub-spindle 11KW (14.7HP)
- Massive 45° slanted cast iron base for extra stability and rigidity

INCREASED CAPACITY
- 10 inch chuck standard
- 3 inch bar capacity standard

FASTER / MORE PRODUCTIVE
- Rapid rates X-axis 20 m/minute, Z-axis 24 m/minute
- Tool to tool turret indexing time 1 sec, 180° indexing 1.5 sec
- Even faster on T-8M: 0.3 sec tool to tool and 0.8 sec 180° degree indexing time
- T-8M and T-8SM (Live tooling) 11KW (14.7HP)

ERGONOMIC CONSIDERATIONS
- Easy to use membrane touch-pad control station
- Easy moving operator door
- No chip or coolant leaks



For T-8S / T-8SM / T-8SMY

For T-8(M) / T-8XL(M)

Machine Enclosure
T-8 series machine are fully enclosed with splash guards and way covers.
- CE approved guarding is also available as an option.

T-8 Series

Rigid Construction

Superior Construction

- All major components of T-8 series turning centers are cast iron which has 10 times the dampening capacity of steel resulting in superior cutting performance.
- Castings are well ribbed based on Finite Element Analysis (FEA) for the size and location to ensure high torsional stiffness and minimum vibration
- Linear guideways on X-Z-B for higher rapid rates (trucks are interchangeable for easy maintenance)
- 45° slant bed combines superior machining accuracy with easy access to the workpiece.

Headstock

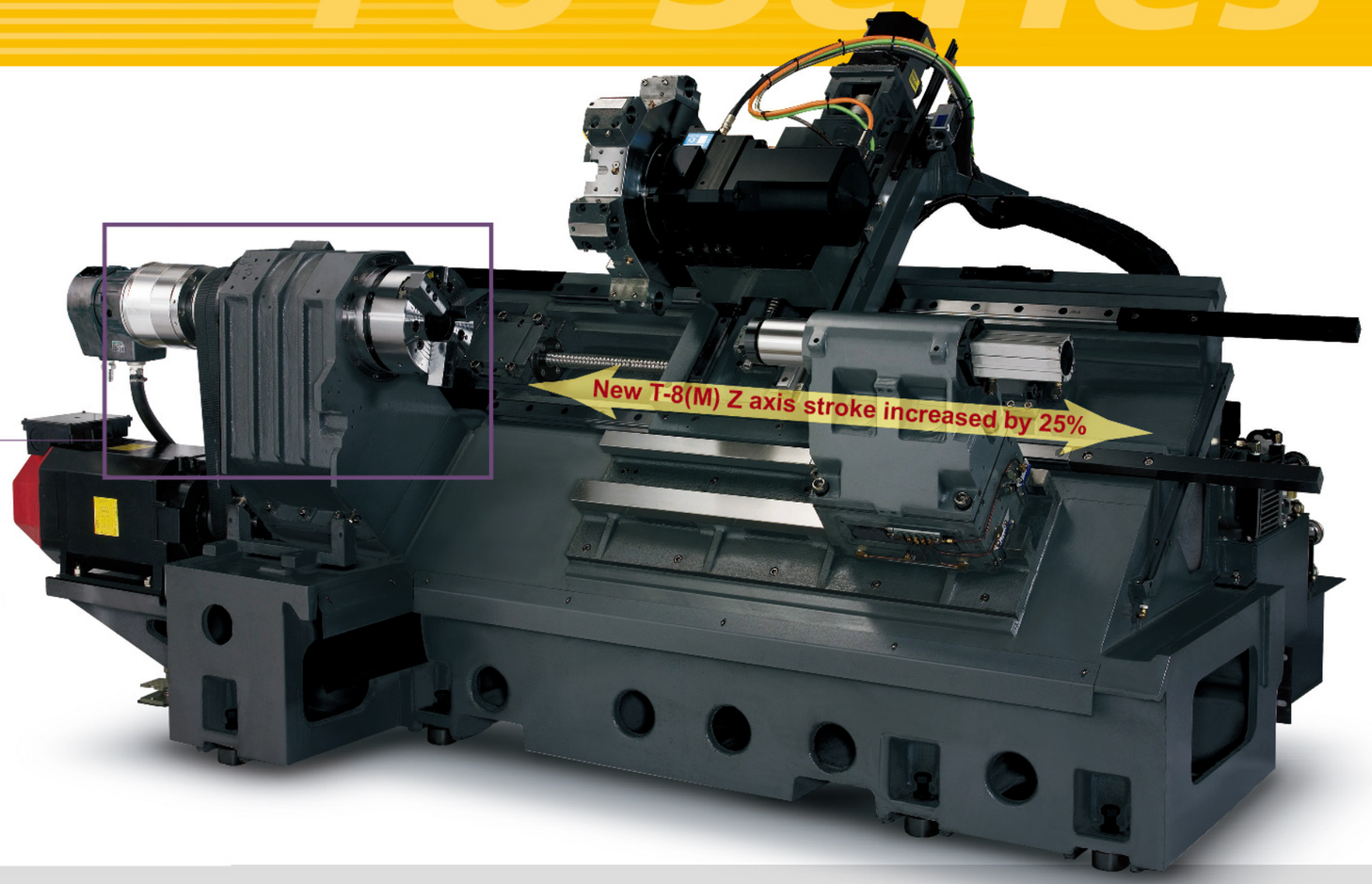
Heavy duty thermally symmetrical headstock design has heat dissipating fins to minimize thermal distortion during long machining cycles. All critical components are machined in a temperature controlled environment and assembled in a clean-room.

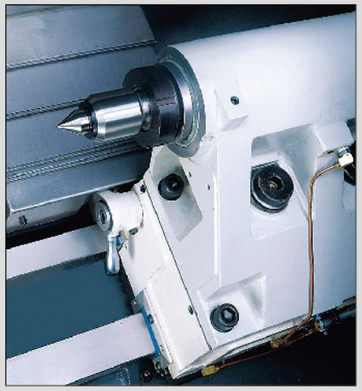
- Cartridge style spindle provides quick and easy replacement.

Directly Coupled Servo Motors

The T-8 series servo motors are connected directly to the ball screws with rigid shaft couplings. These couplings ensure that even under severe loading from sharp corner machining, precise interpolation is achieved. This design is superior to both belt driven and flexible shaft coupling designs.

- T-8 series motors have 1,000,000 pulse encoders for high accuracy positioning of linear axes
- Motors are the same between X & Z axes which reduces spare part requirements.

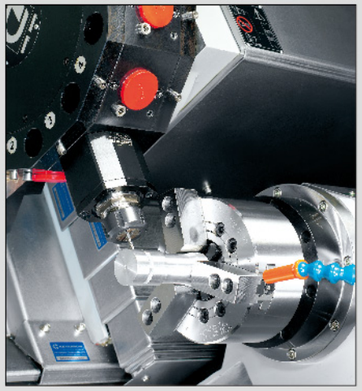




Tailstock (Standard with T-8(M)/T-8XL(M)

Heavy duty tailstock with large diameter quill and precision Morse taper provide outstanding rigidity.

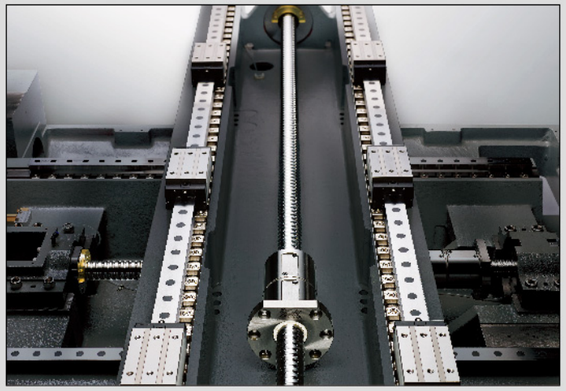
- Quill adjustment is hydraulic



Sub-Spindle (Standard with T-8S and T-8SM)

The sub-spindle replaces the standard tailstock on T-8S and T-8SM turning centers. A position encoder is attached to the sub-spindle so the sub-spindle can then be synchronized with the main spindle. Special software allows the work piece to be transferred from the main spindle to the sub-spindle at any speed for secondary machining operations. This eliminates the need for operator intervention

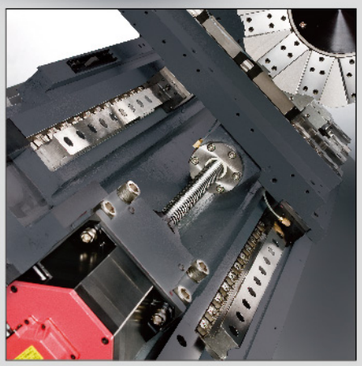
- Allows machining of both ends of parts.
- Works great with bar feed option and parts catcher for unmanned operation



Double-Nut Ball Screws (T-8S/T-8SMT-8SMY)

LEADWELL uses only premium quality preloaded double-nut ball screws. Each ball screw is accurately aligned parallel to the linear guide ways and anchored at both ends. They are then pre-tensioned to improve machine stiffness and reduce thermal growth. With this design they exceed customer requirements for accuracy and maximum life.

- Rotational torque variations are measured to guarantee a non-binding, highly accurate, and long running components.



The Roller Type Linear Guide Way

T-8(M)/T-8XL(M) equip with roller type linear guide way can provide higher rigidity and make the movement more smooth and stability, especially for the request of high accuracy and heavy load.

T-8 Series

C-Axis (C.S)

A precision position encoder is attached to the high-performance spindle motor. This provides bidirectional spindle control. Precision grooving and rigid tapping can be easily done when the spindle position is then synchronized with the Z-axis motion.

- C-axis positioning resolution is 0.001 degrees
- C-axis rapid rate is 40 RPM Switching between normal turning and synchronization

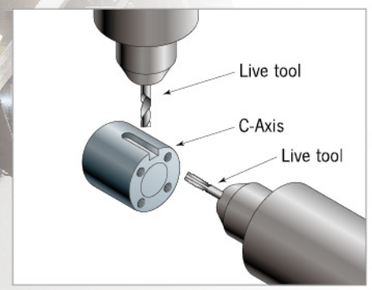
Cartridge Type Spindle

The heavy-duty spindle utilizes FAG or NSK ABEC-7 bearings to support heavy cutting.

- Wide bearing spacing for high rigidity
- Special heat treatment for critical parts
- Highly accurate draw tube mechanism
- Precision labyrinth seal
- Large diameter quill for high rigidity
- Optimum spacing of front bearings to spindle nose for highest rigidity

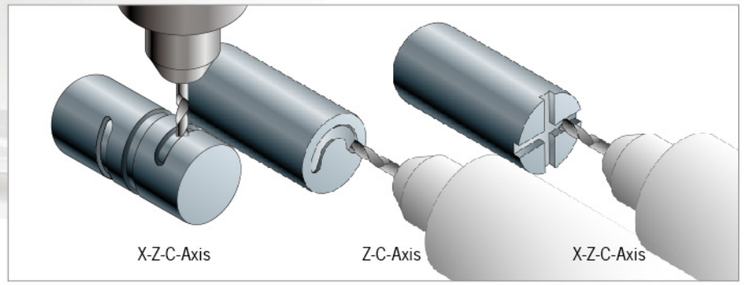
All of which produces better part finish in less time.

The majority of all turned parts require additional machining (milling, drilling and tapping). LEADWELL's T-8M and T-8SM provides this capability.



T-8M with C-Axis (C.S)

By synchronizing the live tool turret and the C-axis; the T-8M can machine complex cams and slots on both the sides and end of parts.
It can also drill and tap holes on both the sides and the end of parts.



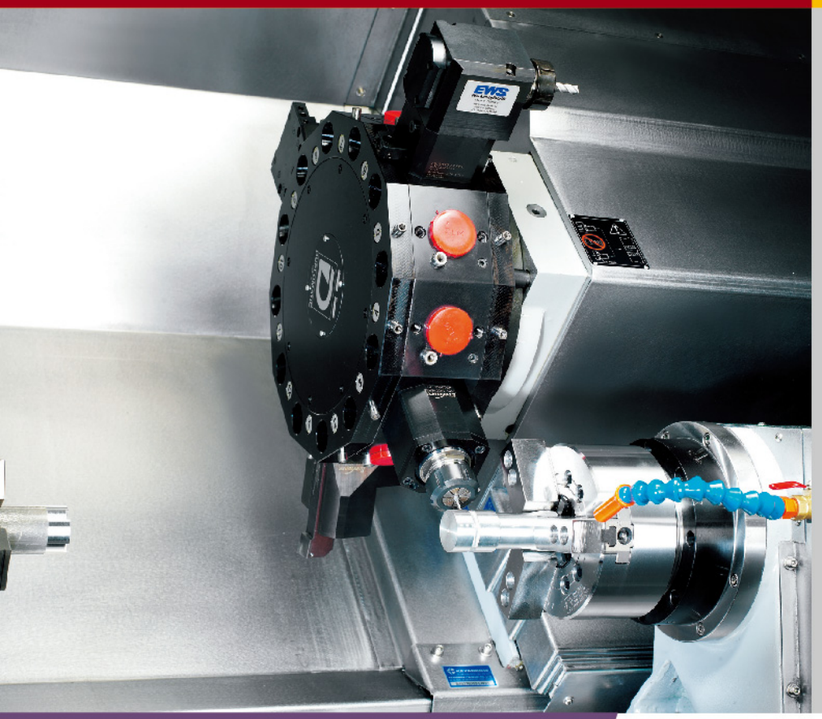
T-8SM with C-Axis (C.S)

Adding the sub-spindle and synchronizing it with the live tool turret and the C-axis; the T-8SM adds the ability to machine both ends of a part.
Parts can be processed 100% complete on one machine without operator intervention.

Strong Finger Chuck (Maximum to 18") Option

High speed and light weigh type especially suit for aluminum wheels. All surfaces are ground for precision running and long time service.

T-8 Series

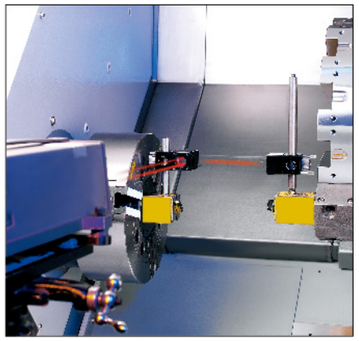


Live Tool Turret (Standard with T-8M and T-8SM)

The live tool turret replaces the standard turret on T-8M and T-8SM turning centers. Each tool can then become a rotating tool for both milling and drilling operations.

- Tools can be either radially or axially oriented.

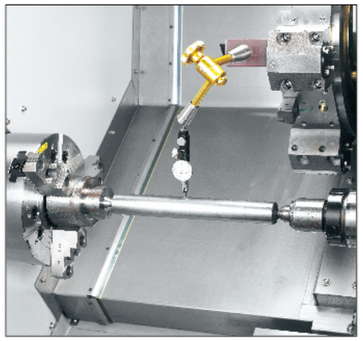
High Quality Assurance



Laser Calibration

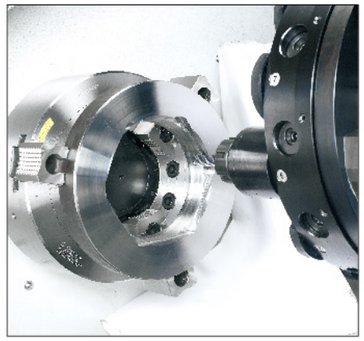
Lasers are used to measure the positioning accuracy of every machine over the full travel of each axis. LEADWELL uses these measurements to compensate any axis error so that each machine meets the high accuracy requirements.

- Each machine is shipped with a positioning accuracy chart.



Machine Geometric Checking

Precision indicators are used to verify that spindle run-out and headstock to tailstock alignment meet all specifications.



Cutting and Coolant Testing

Each machine must complete rigorous cuttings test to ensure machine integrity. Coolant tests guarantee that all components are working properly and that machine 100% leak proof.

48 hrs Non-Stop Reliability Test

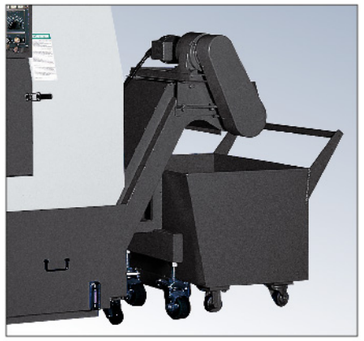
Each machines is cycled for 48 hrs to help ensure the highest reliability

High Productivity Options

Bar Feeder Option

This option automatically loads bar stock to the T-8 machine. It is controlled by an iO interface and has a convenient LCD display. Diameter changes are made in less than one minute.

- Feeds round, hexagonal and square stock
- This option can be easily added to any T-8 series machine.



Chip Conveyor Option

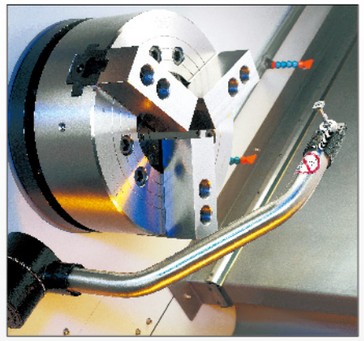
This general purpose option can be added to any T-8 turning center. It is designed to remove steel, cast iron aluminum and bronze chips-thus eliminator operator intervention for periodical machine cleaning.

- Includes patented reversal feature to clear chip jams

Parts Catcher Option

The unique LEADWELL parts catcher design works well with the bar feeder option to improve productivity. Parts are transferred outside the operator door, which eliminates the need to stop the machine to unload finished parts

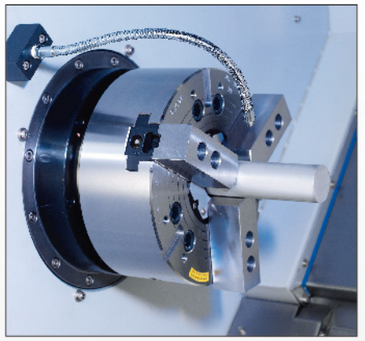
- This option can be easily added to any T-8 series machine.
- Used with the Bar Feeder option, the T-8 becomes an unmanned machine.



Tool Setter Option

LEADWELL's tool setter option measures both radial and axial tools. It uses macro programming to automatically define and update tool offsets.

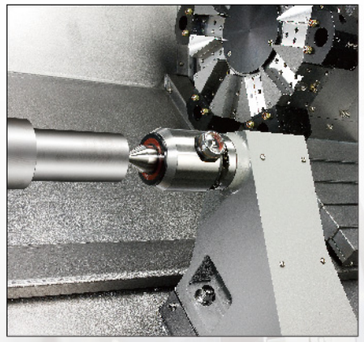
- Reduces setup time.
- The tool setter option can also check for broken tools.



Spindle Coolant Nozzle Option

LEADWELL's spindle coolant nozzle delivers coolant directly to the workpiece for efficient chip removal and part cooling

- This option also reduces operator intervention to clear chips.

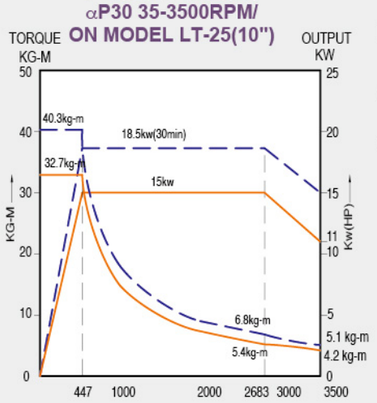


Servo Tailstock Option

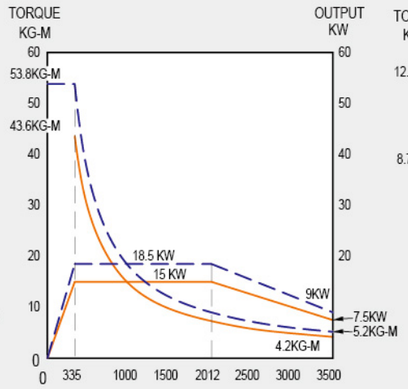
Rigid tailstock driven by a servo motor provides outstanding stability.

Spindle Speed / Output Diagram

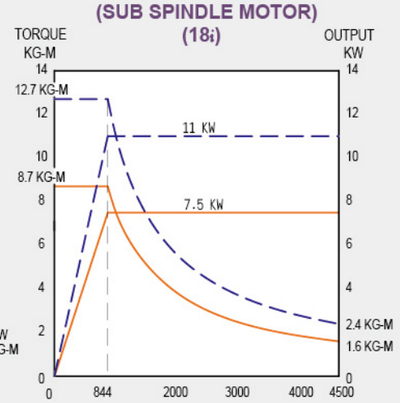
T-8(M)/T-8XL(M)
αP30 35-3500RPM/
ON MODEL LT-25(10")



T-8S (0i-T)



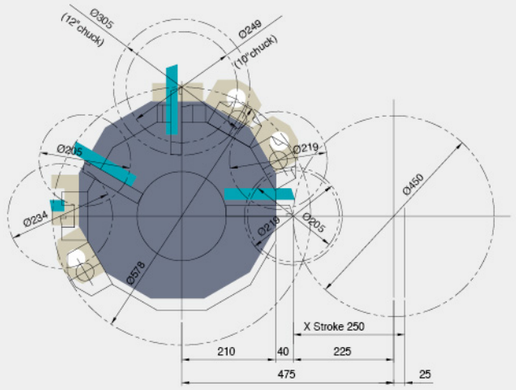
T-8SM/T-8SM+Y
(SUB SPINDLE MOTOR)
(18i)



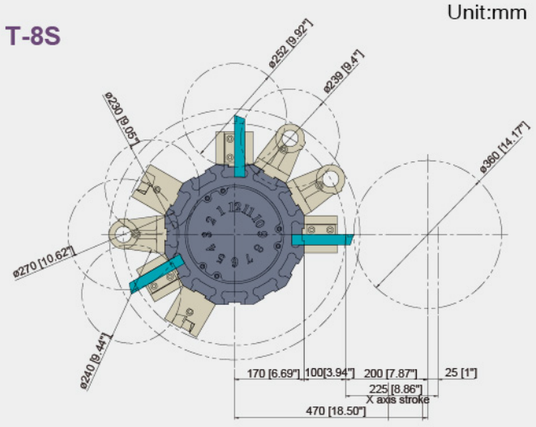
Tooling Interference

Unit:mm

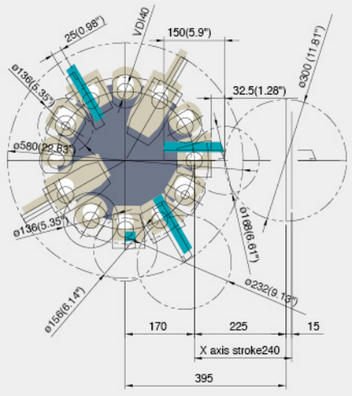
T-8/T-8XL



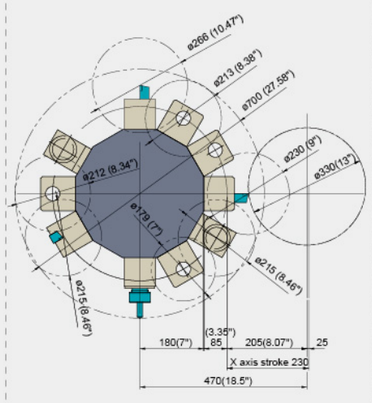
T-8S



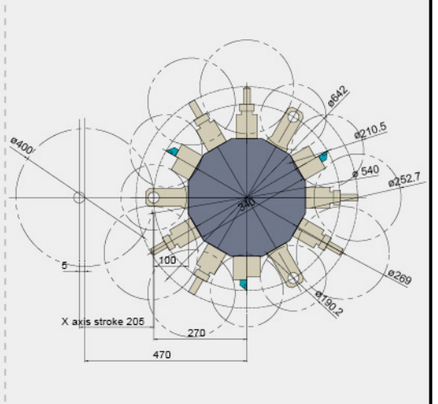
T-8M/T-8XLM



T-8SM



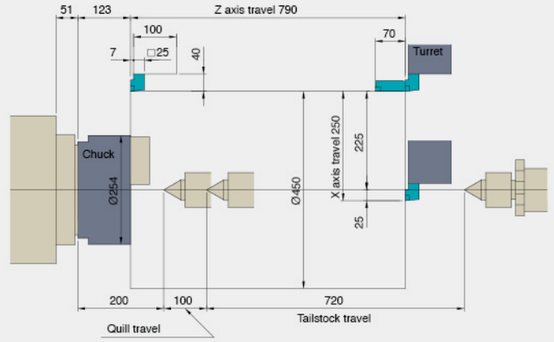
T-8SM+Y



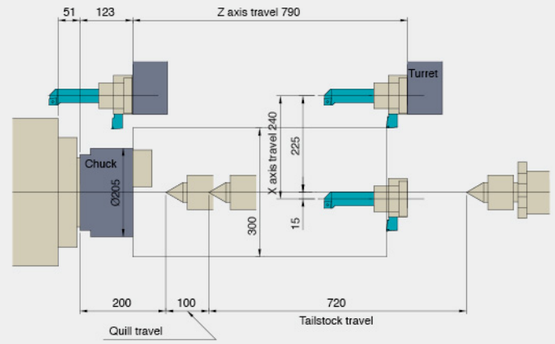
Unit:mm

Working Capacity

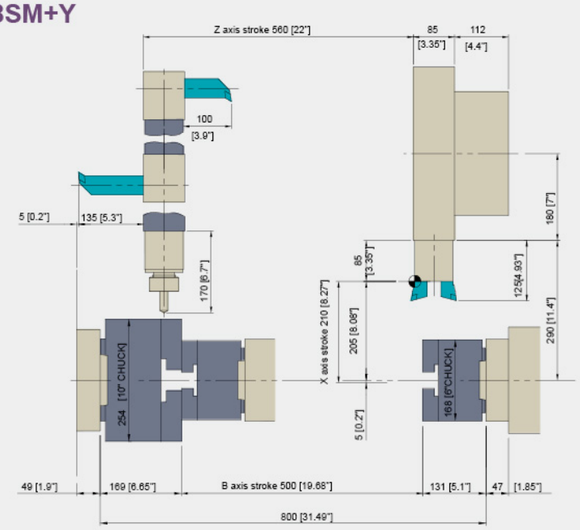
T-8



T-8M



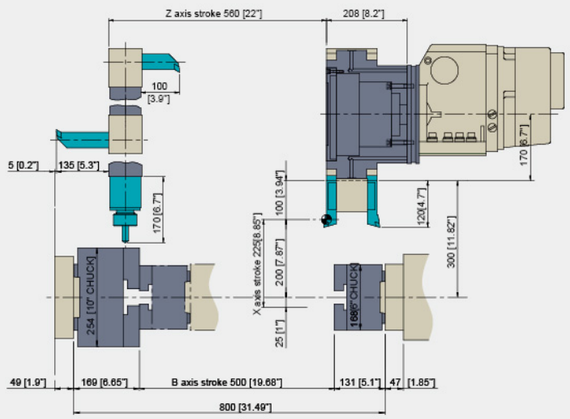
T-8SM+Y



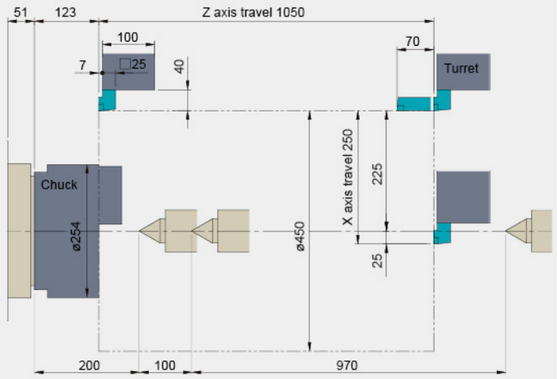
Unit:mm

Working Capacity

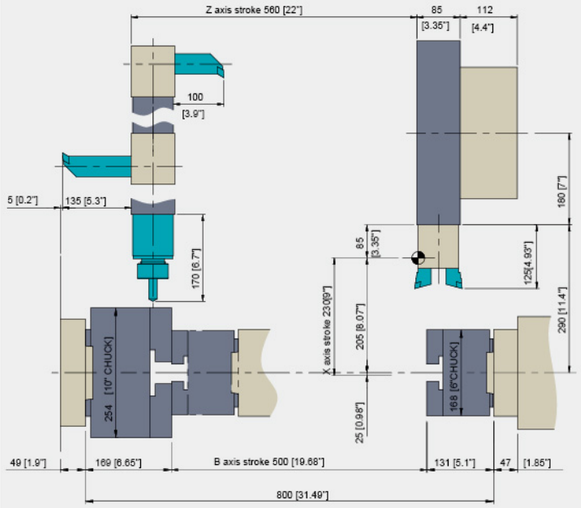
T-8S



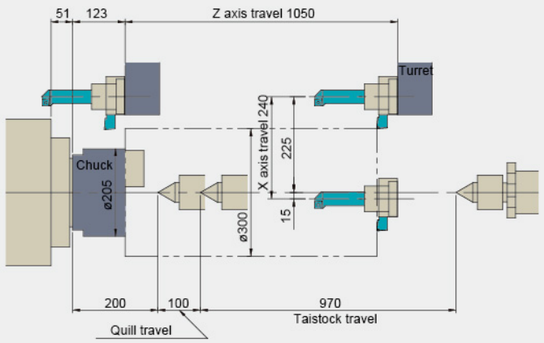
T8XL



T-8SM



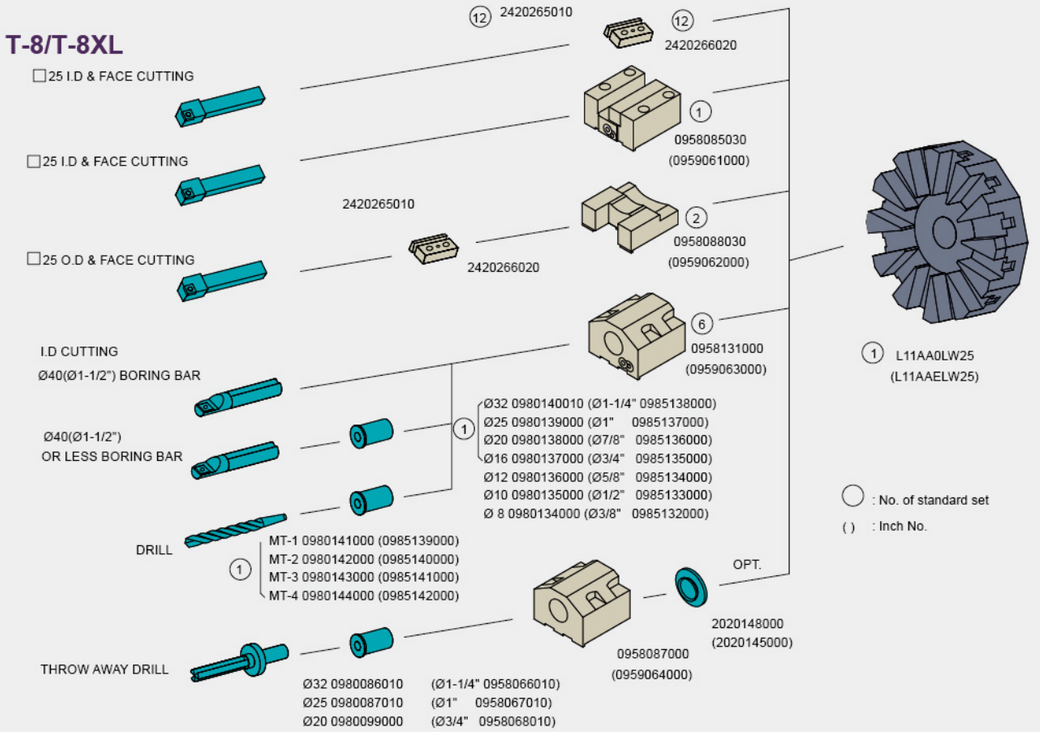
T8XLM



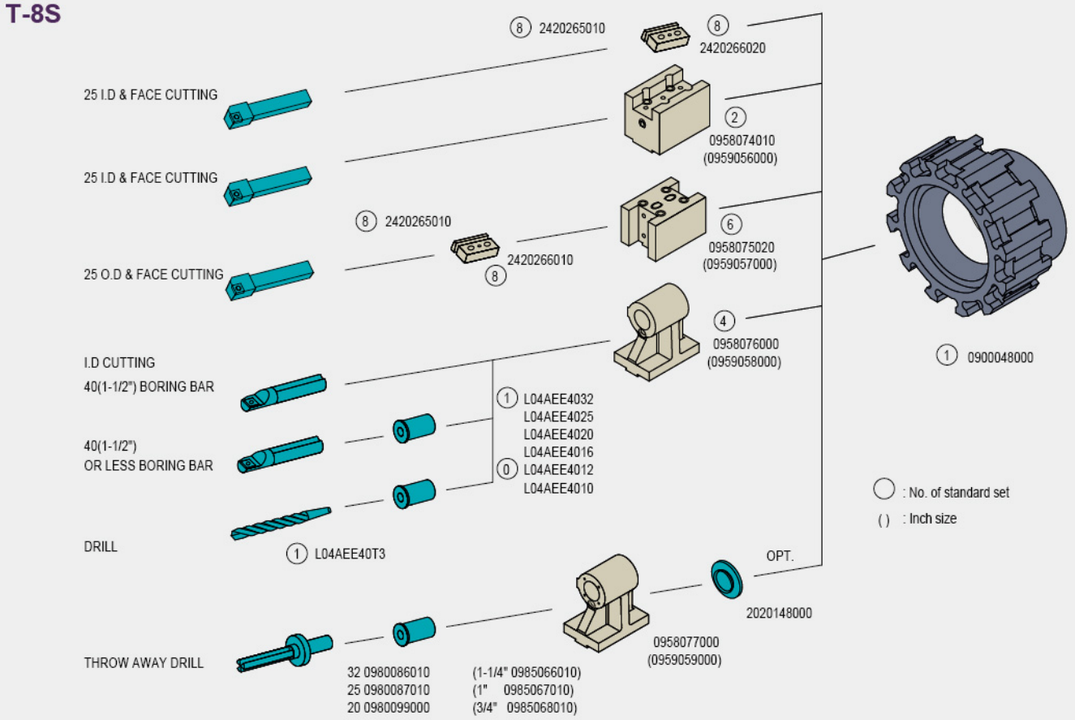
Unit:mm

Tooling System

T-8/T-8XL

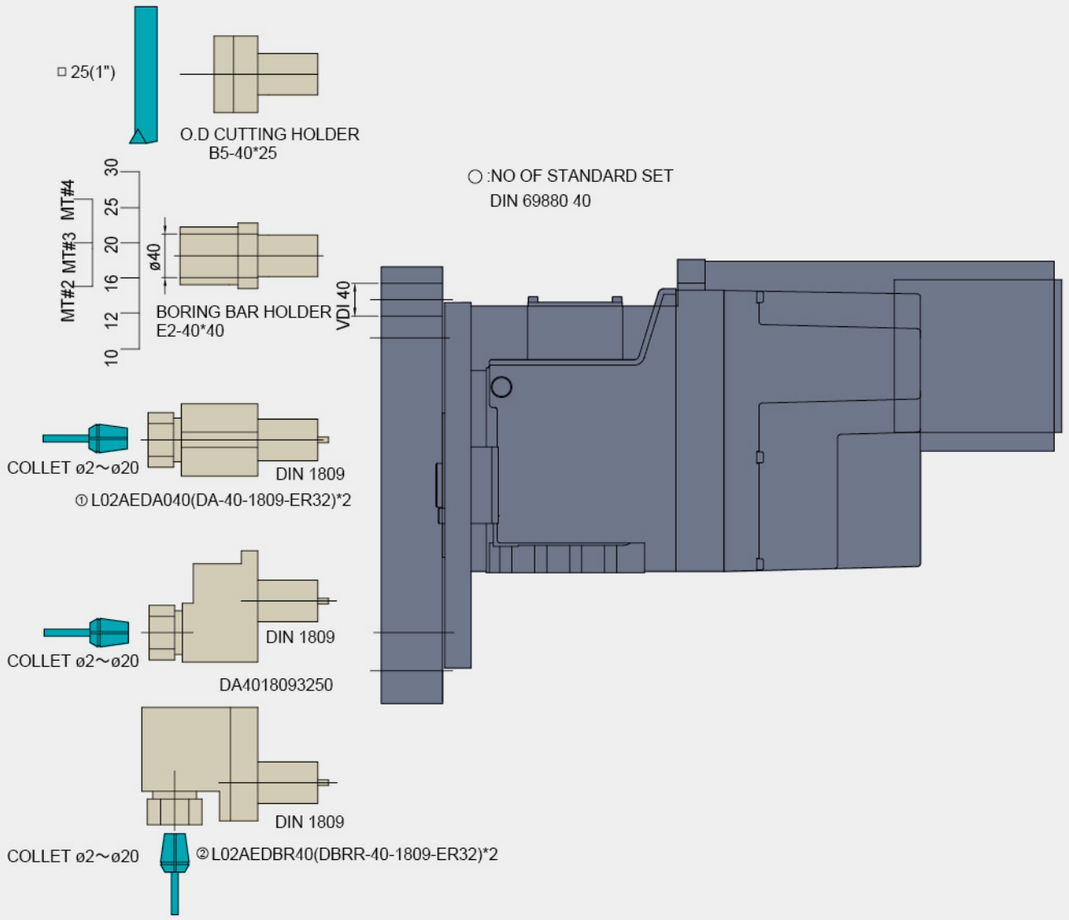


T-8S



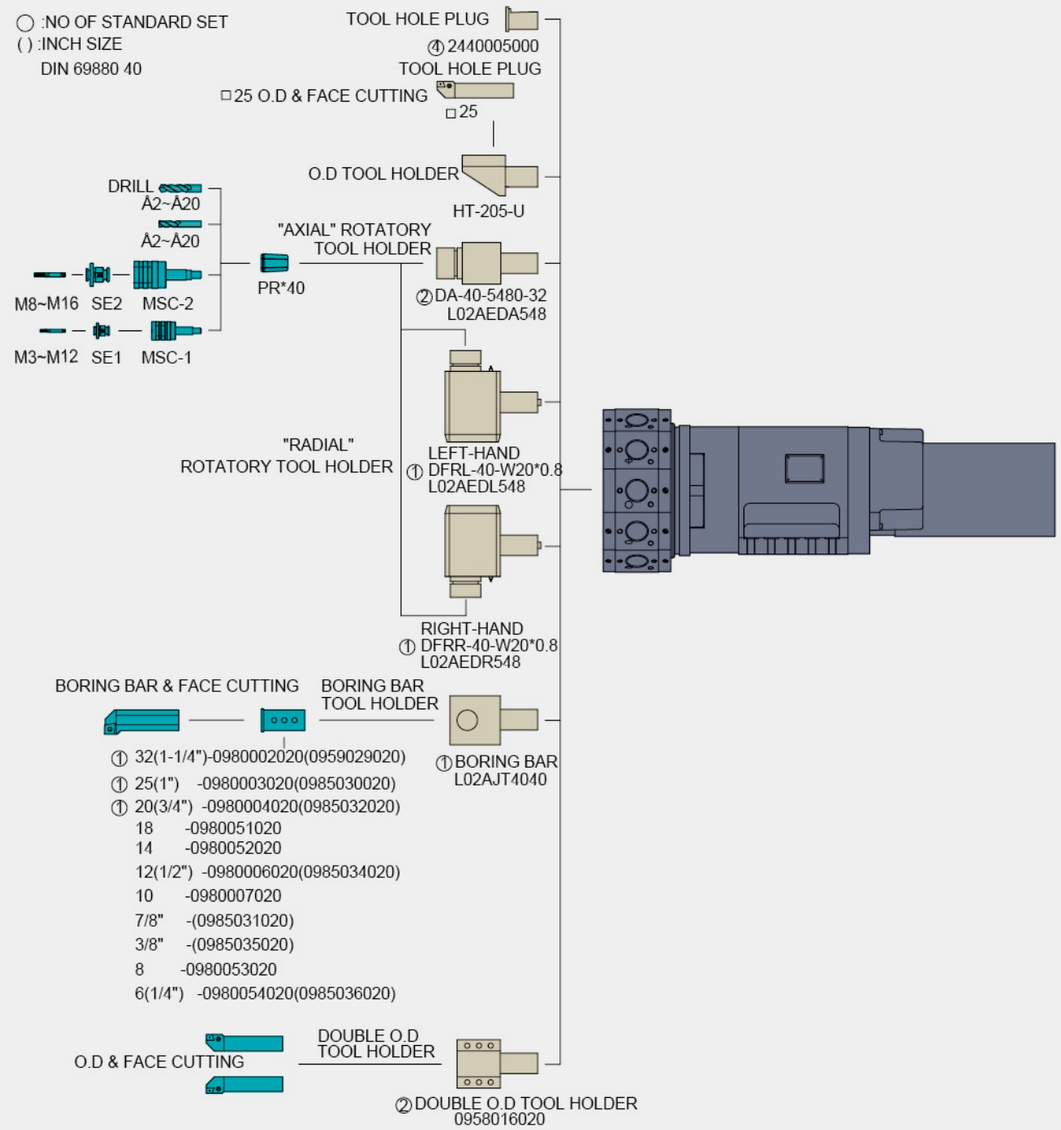
Tooling System

T-8M/T-8XLM



Tooling System

T-8SM

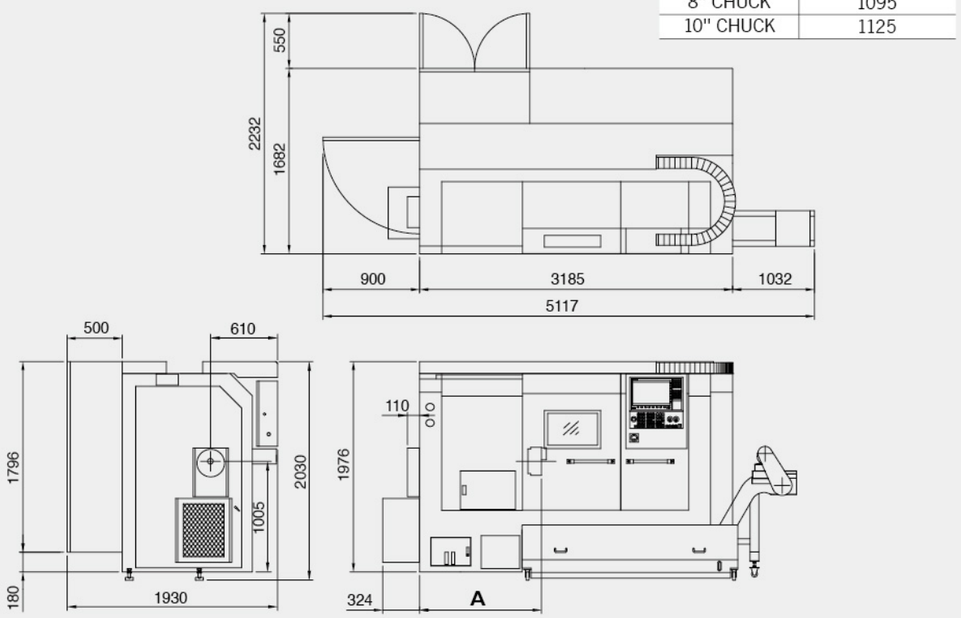


Unit:mm

Machine Dimensions

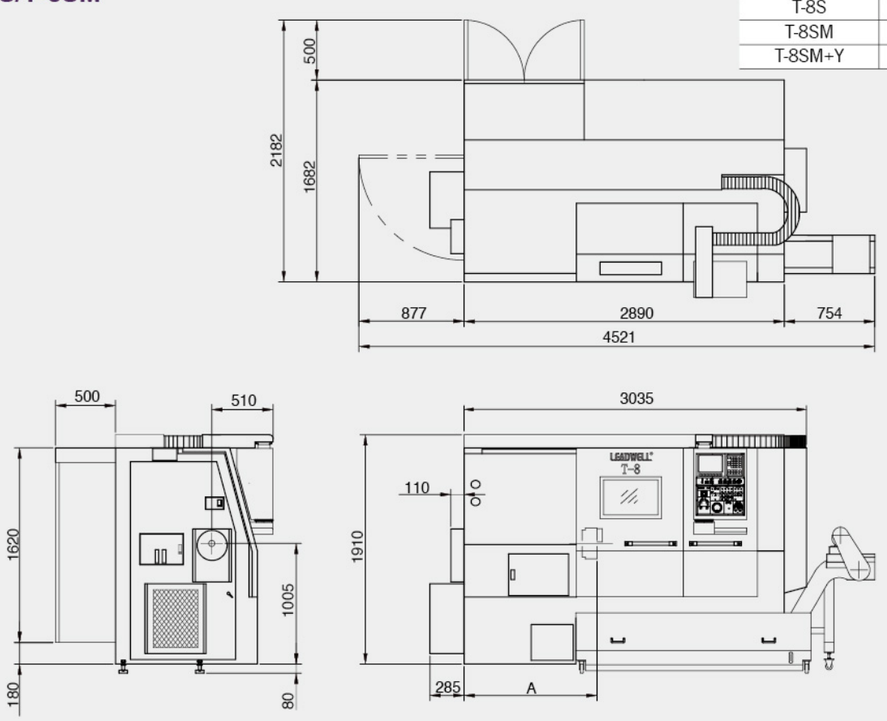
T-8/T-8M

	A
8" CHUCK	1095
10" CHUCK	1125



T-8S/T-8SM

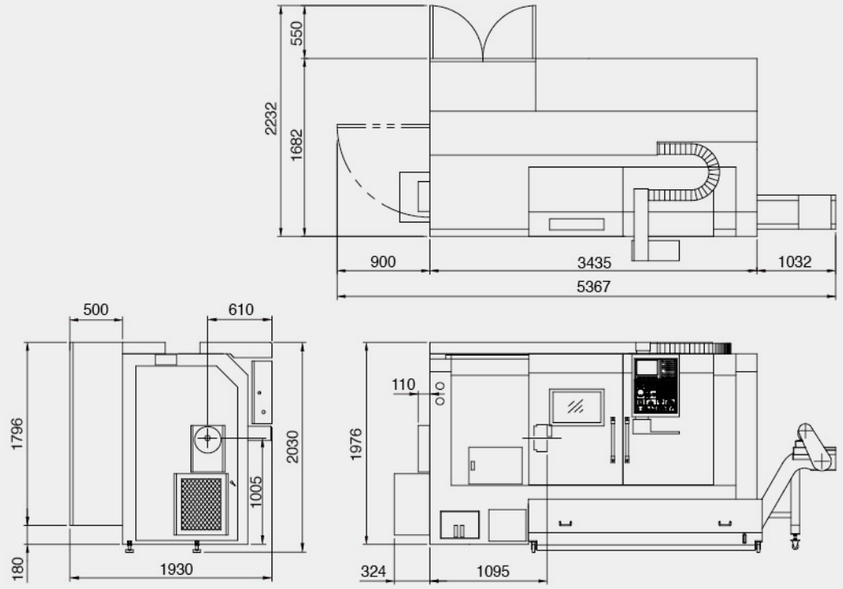
MODE	A
T-8S	3357(132.1)
T-8SM	3357(132.1)
T-8SM+Y	3138(123.5)



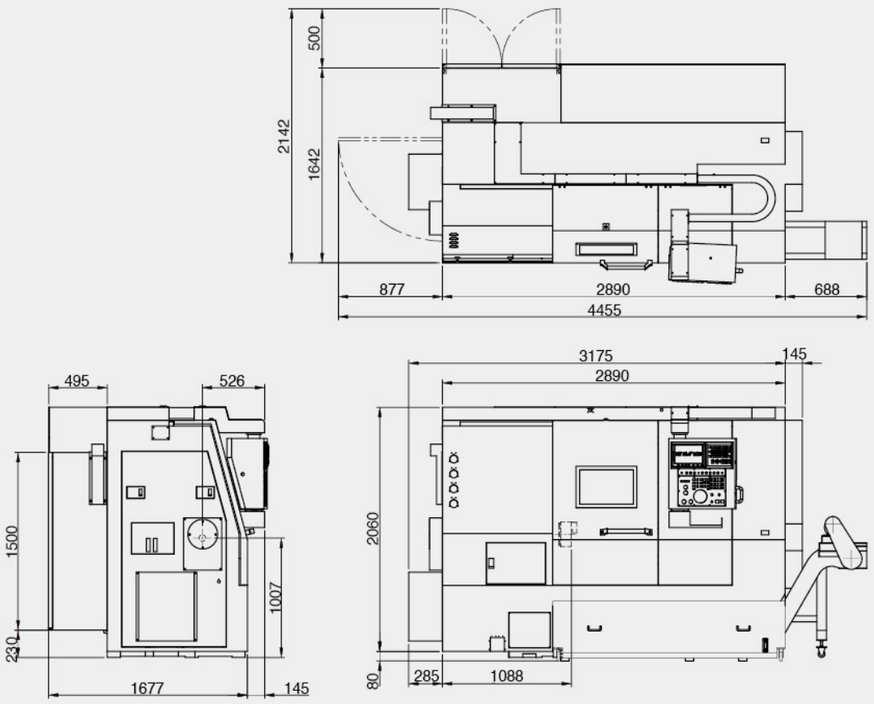
Unit:mm

Machine Dimensions

T-8XL/T-8XLM



T-8SMY



Machine Specifications

ITEM / MODEL		T-8	T-8M	T-8S	T-8SM	T-8SM+Y
CAPACITY	Unit					
Max swing	mm (in)	670 (26.3)	637 (25)	600 (23.6)	600 (23.6)	700 (27.5)
Max turning diameter	mm (in)	450 (17.7)	285 (11.2)	360 (14.1)	330 (13)	400 (15.7)
Max turning length	mm (in)	760 (29.9)	745 (29.3)	500 (19.6)	500 (19.6)	500 (19.6)
Bar capacity	mm (in)	77 (3)	77 (3)	77 (3)	77 (3)	78 (3)
TRAVEL						
X axis	mm (in)	225+25 (8.8+1)	225+15 (8.8+0.6)	200+25 (7.8+1)	205+25 (8.07+1)	205+15 (8.07+0.6)
Z1 axis	mm (in)	790 (31.1)	790 (31.1)	560 (22)	560 (22)	560 (22)
Z2 axis	mm (in)	-	-	500 (19.6)	500 (19.6)	500 (19.7)
Y axis	mm (in)	-	-	-	-	±40 (±1.57)
SPINDLE						
Spindle speeds range	rpm	35-3500	3500	3500	3500	35-3500
Chuck size	mm (in)	254 (10)	254 (10)	254 (10)	254 (10)	254 (10)
Spindle nose		A2-8	A2-8	A2-8	A2-8	A2-8
Spindle motor power	kW (HP)	18.5 (24.8)	18.5 (24.8)	18.5 (24.8)	18.5 (24.8)	18.5 (24.8)
SUB SPINDLE						
Sub spindle speed	rpm	-	-	4500	4500	4500
Sub chuck size	mm (in)	-	-	165 (6)	165 (6)	165 (6.5)
Sub spindle nose		-	-	A2-5	A2-5	A2-5
Sub spindle motor power	kW (HP)	-	-	11 (14.7)	11 (14.7)	11 (14.7)
TURRET						
Number of tool stations	pcs	12	12	12	12	12
Shank height for square tool	mm (in)	25 (1)	25 (1) VDI 40	25 (1)	25 (1) VDI 40	20 (0.78) VDI 30
Shank diameter for boring bar	mm (in)	40 (1.5)	40 (1.5) VDI 40	40 (1.5)	40 (1.5) VDI 40	32 (1.25) VDI 30
Rotary tool spindle speed range: axis units	rpm	-	3000	-	3000	3000
Rotary tool spindle speed range: rad units	rpm	-	3000	-	3000	3000
Rotary tool motor power	kW (HP)	-	5.5 (7.3)	-	4 (5.4)	2.7 (3.6)
FEEDRATE						
X/Z1 axis rapid traverse	M/min (ipm)	20/24 (788/945)	20/24 (788/945)	20/24(788/945)	20/24 (788/945)	20/24 (788/945)
Z2/Y axis rapid traverse	M/min (ipm)	-	-	Z2:20 (788)	Z2:20 (788)	20/8 (788/315)
FEED MOTORS						
X axis motor	kW (HP)	1.8 (2.4)	3 (4)	1.8 (2.4)	3 (4)	3 (4)
Z1 axis motor	kW (HP)	1.8 (2.4)	3 (4)	1.8 (2.4)	3 (4)	3 (4)
Z2 axis motor	kW (HP)	-	-	1.8 (2.4)	1.6 (2.1)	1.6 (2.1)
Y axis motor	kW (HP)	-.	-	-	-	1.6 (2.1)
TAILSTOCK						
Quill diameter	mm (in)	100(3.9)	100(3.9)	-	-	-
Quill inside taper	M.T	5	5	-	-	-
MACHINE SIZE						
Total machine weight	kg	6000	6200	6200	6100	5800
Machine length	mm (in)	3509 (138.1)	3509 (138.1)	3357 (132.1)	3357 (132.1)	3138 (123.5)
Machine width	mm (in)	1930 (76)	1930 (76)	1807 (71.1)	1807 (71.1)	1807 (71.1)
Machine height	mm (in)	2030 (79.9)	2030 (79.9)	1991 (78.3)	1991 (78.3)	1991 (78.3)
Power requirement	KVA	40	40	60	60	70
Computer control	FANUC	0i-T	0i-T	0i-T	18i	18i

STANDARD ACCESSORIES

- RS232 interface
- Fully enclosure guarding
- Work light
- Metric disc
- Heat exchanger
- Leveling screws and pads
- Maintenance tool box
- Buzzer
- 3" jaw open center chuck
- Foot peddle switch
- Wide angle v-belt
- Manual tailstock (For T-8/T-8M)
- VDI disc (For T-8M/T-8SM)
- C axis and power tooling (For T-8M/T-8SM)

OPTIONAL ACCESSORIES

- Spindle side coolant nozzle
- Tool setter
- Programmable tailstock (For T-8/T-8M)
- Parts catcher
- Alarm lamp
- Air conditioner in cabinet
- Bar feeder
- Auto door
- Tool tip air blow nozzles
- High pressure coolant
- Collect chuck
- Oil mist collector
- Chip conveyor outside machine
- Chip bucket
- 2 speed gearbox (For T-8)
- Manual steady rest (For T-8)
- Auto steady rest with hydraulic (For T-8)
- Linear scales (For T-8/T-8M)
- Chuck with high / low pressure (For T-8/T-8M/T-8S)
- Bullet proof glass
- Oil skimmer
- Transformer

Machine Specifications

ITEM / MODEL		T-8XL	T-8XLM
CAPACITY	Unit		
Max swing	mm (in)	670 (26.3)	637 (25)
Max turning diameter	mm (in)	450 (17.7)	285 (11.2)
Max turning length	mm (in)	1020 (40.1)	1005 (39.5)
Bar capacity	mm (in)	77 (3)	77 (3)
TRAVEL			
X axis	mm (in)	225+25 (8.8+1)	225+15 (8.8+0.6)
Z1 axis	mm (in)	1050 (41.3)	1050 (41.3)
SPINDLE			
Spindle speeds range	rpm	35-3500	35-3500
Chuck size	mm (in)	254 (10)	254 (10)
Spindle nose		A2-8	A2-8
Spindle motor power	kW (HP)	18.5 (24.8)	18.5 (24.8)
TURRET			
Number of tool stations	pcs	12	12
Shank height for square tool	mm (in)	25 (1)	25 (1) VDI 40
Shank diameter for boring bar	mm (in)	40 (1.5)	40 (1.5) VDI 40
Rotary tool spindle speed range: axis units	rpm	-	3000
Rotary tool spindle speed range: rad units	rpm	-	3000
Rotary tool motor power	kW (HP)	-	5.5 (7.3)
FEEDRATE			
X/Z1 axis rapid traverse	M/min (ipm))	20/24 (788/945)	20/24 (788/945)
FEED MOTORS			
X axis motor	kW (HP)	1.8 (2.4)	3 (4)
Z1 axis motor	kW (HP)	1.8 (2.4)	3 (4)
TAILSTOCK			
Quill diameter	mm (in)	100(3.9)	100(3.9)
Quill inside taper	M.T	5	5
MACHINE SIZE			
Total machine weight	kg	6500	6700
Machine length	mm (in)	3759 (148)	3509 (138.1)
Machine width	mm (in)	1930 (76)	1930 (76)
Machine height	mm (in)	2100 (82.7)	2100 (82.7)
Power requirement	KVA	40	40
Computer control	FANUC	0i-T	0i-T

STANDARD ACCESSORIES

- Metric disc
- Manual tailstock
- Buzzer
- Heat exchanger
- Full enclosed splash guard
- 3 jaw open center chuck
- Foot switch
- Wide angle V-belt

OPTIONAL ACCESSORIES

- Inch disc
- Tool setter
- Programmable
- Alarm lamp
- Bar feeder
- Spindle air outer blow
- High pressure pump
- Chip conveyer
- Chip bucket
- Two speed gearbox
- Collect chuck
- Mist separator
- Oil skimmer
- H.T.D belt
- Transformer
- Manual steady rest
- Hydraulic steady rest
- Air conditioner
- Auto door
- Automatic workpicec measurement
- VDI disc
- Robot
- Spindle air inner blow
- 3 jaw close center chuck

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